

Bight. Species of *Daviesia* are found in all the Australian states and in Tasmania. As *Pilostyles Hamiltonii* very likely parasitises more than the four known host species it may occur extensively through the forest and scrub regions of southern Australia. It is just possible that *Pilostyles* infects other genera of the Papilionaceae or even genera of the Mimoseae and Caesalpiniaceae. If this should be the case the parasite's distribution would be even more extensive.

The details of seed germination and establishment of the seedlings of *Pilostyles* on its host are not known. Here is a problem that awaits investigation by a professional or amateur botanist.

## THE LIFE HISTORY OF THE BROWN-TAIL MOTH, *Pterolocera isogama*

By JEAN McGAURAN, "Bunya Bunya," East Yuna.

The brown-tail moths were first recorded here, in the 1949 season, on June 22, their appearance coinciding with the opening rains. In the evening, almost immediately after a steady fall of rain, numbers of the moths came fluttering around the light. They measured nearly two inches across the fully expanded wings and were brown in colour, the females being somewhat lighter than the males.

Many eggs were laid. They were about the size of a pin-head and were of two colours, some being pinkish, others pinkish-grey. Some eggs were kept for study.

On July 20—28 days later—I found tiny, very hairy, grey caterpillars hatching. I reared two of them trying at all times to provide them with, as near as possible, natural conditions. For food I offered the caterpillars mallee leaves and various grasses and herbs, but these were ignored. Leaves of curaras, jams and wattles (namely species of *Acacia*) were readily accepted, and on them the caterpillars fed throughout the larval stage.

The caterpillars moulted several times in the early stages, but after they had begun to develop their green and blue markings (when they were about three-quarters of an inch long) I did not see any discarded skins.

One caterpillar grew more quickly than the other, and by September 26 measured nearly two inches in length. The other caterpillar was somewhat smaller. They had grey, blue, yellow and green markings on the upper portion of the body. Their sides, below the pointed tufts of white hairs indicated in the sketch, were black. Claspers and legs were reddish-brown. The ventral surface was reddish-brown with black markings.

The larger caterpillar went underground to pupate on October 4. It dug a hole apparently straight down, pushing the earth up and



Brown-tail Moth (*Pterolocera isogama*). 1—Female. 2—Male. 3—Caterpillars 8 weeks after hatching. 4—Larger caterpillar 10 weeks after hatching, September 26. 5—Pupal case of larger caterpillar. 6—Empty pupal case, cut longitudinally.

—Jean McGauran del.

out from the hole to a radius of about half an inch. I went away for a little while, and when I returned, could just distinguish some movement below the surface, the opening being covered with loose earth.

On October 10 I dug up and examined the pupal case. It measured about two inches in length and was slightly curved. The upper portion was soft and covered with sand, which clung to a webby surface. About half an inch at the tip was purplish-black, and devoid of sand. A number of hairs adhered to the surface of the cocoon.

The smaller caterpillar pupated on October 13. Its cocoon was similar to the first but less sandy, allowing a greater area of the dark surface to be seen.

The two pupæ remained in the ground until June 22, 1950. That night, good, soaking rain fell, and next morning I found that the moths had emerged. Judging by the antennae, they were both females. Their abdomens were large, and their wings were crumpled, as though not fully extended.

The rain which fell on June 22 was not the first of the season, over three inches having been recorded for May.

Several "brown-tails" were seen on June 10, when 17 points of rain fell, and on June 17, when 38 points were registered. One moth was seen near those I had reared.

Specimens of moths similar to those reared in this experiment, and presumed to be the same species, were forwarded to the Division of Entomology of the C.S.I.R.O. for identification and Mr. I. F. B. Common reported as follows: "The specimens sent are *Pterolocera isogama* Turner (Family Anthelidae) (*Proc. Linn. Soc. N.S.W.*, 56 (4): 328). The only other species in the genus (*P. amplicornis*) has an apterous female and the larvae feed on grasses."

#### ADDENDUM.

Observations during 1951 differ slightly from those reported in the preceding article.

The moths appeared in numbers on June 1. The eggs laid this year did not hatch in 28 days but in about 6 or 7 weeks. Four moths laid 99, 94, 50 and 45 eggs, respectively. However, these may not necessarily have been the total numbers, as the moths might have laid other eggs before I captured them.

Last year I collected two caterpillars which I believed were "brown-tail" larvae. They burrowed in October. Their cocoons were much shorter than those of the "brown-tails" previously studied and were almost entirely covered with sandy web. The portion of cocoon that was visible was whitish, not purplish-black. The moths emerged in June this year. They were "brown-tails," both males. It would appear that the cocoon differs with the sex.